Tulip Tuesday, Feb. 12
Wildflower Wednesday, Feb. 13

- HW4-2/4-3 due NOW
- *Learning target: I can explain monetary policy and the tools of the Federal Reserve.*
- **Warm up:** Answer the following questions fiscal policy:

1. What are the two main fiscal policy tools?
2. Who conducts fiscal policy in the U.S.?
3. What two fiscal policies would be used during a recession?
4. What two fiscal policies would be used to fight inflation?
5. Draw an AD/SRAS/LRAS graph showing a recession.
6. On your graph in #5, draw the effect of expansionary fiscal policy.

Questions about Problem set 4.2 FRQs?

2007B Practice FRQ

1. Assume that Australia and New Zealand are trading partners. Australia's economy is currently in recession.

   (a) Now assume that Australia begins to recover from its recession. Using a correctly labeled graph of aggregate demand and aggregate supply for New Zealand, show the impact of Australia's rising income on each of the following in the short run.

      (i) Aggregate demand in New Zealand. Explain.

      (ii) Output in New Zealand

   (b) Using a correctly labeled graph of the money market for New Zealand, show the effect of the output change in part (a)(ii) on the following.

      (i) Demand for money. Explain.

      (ii) The nominal interest rate

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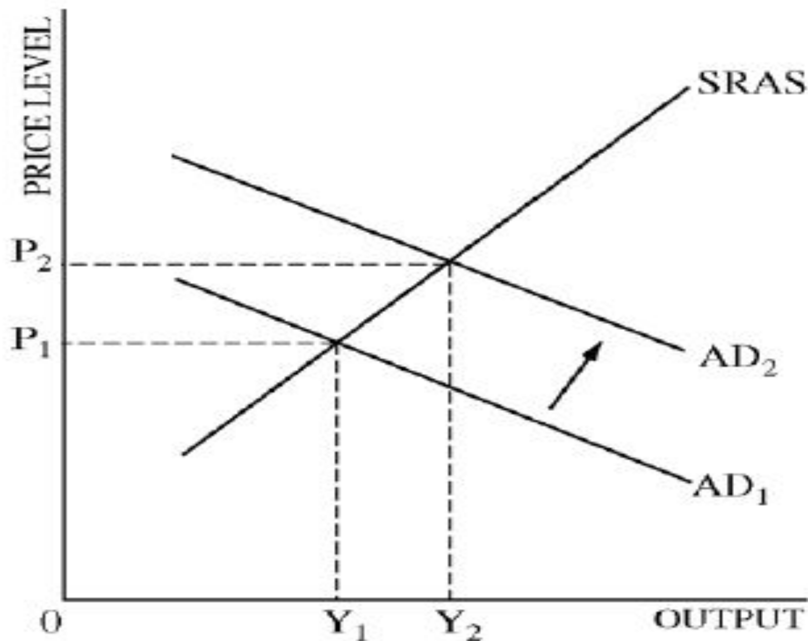
2007B Practice FRQ



(a) 4 points:

One point is earned for a correctly labeled graph.

One point is earned for showing a rightward shift in New Zealand's AD curve.

One point is earned for the explanation that New Zealand's exports to Australia increase.

One point is earned for concluding that New Zealand's output increases.

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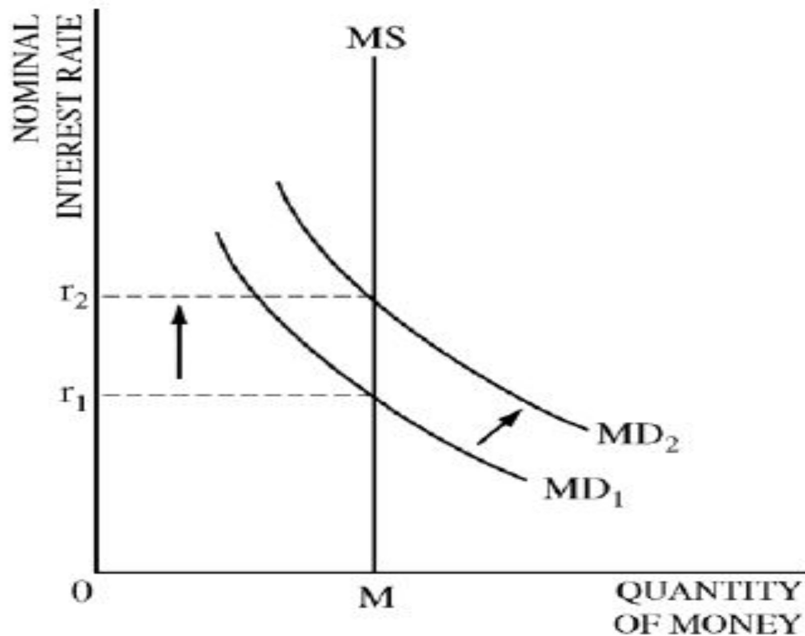
2007B Practice FRQ



(b) 4 points:

One point is earned for a correctly labeled graph of the money market.
One point is earned for showing a rightward shift of the money demand curve.
One point is earned for the explanation that higher income means more volume of transactions.
One point is earned for concluding that the nominal interest rate increases.

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2. Assume that an economy is in long-run equilibrium. Assume that consumers wish to hold less money because they use credit cards more frequently to purchase goods and services than cash.

   (a) Draw a correctly labeled graph of the money market and show the effect of the reduced holdings of money on the equilibrium nominal interest rate in the short run.

   (b) Based on the change in the interest rate in part (a), what will happen to each of the following in the short run?

      (i) Prices of previously issued bonds

      (ii) The price level and real income. Explain.

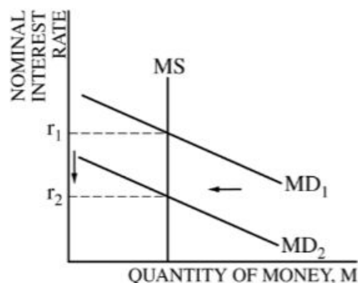
   (c) With a constant money supply, based on your answer to part b(ii), will the velocity of money increase, decrease, or remain the same, or is the change indeterminate?

   (d) If the central bank wishes to reverse the change in the interest rate identified in part (a), what open market operation would it use?

Open with

Question 2

6 points (2 + 2 +1 + 1)



(a) 2 points:

- One point is earned for drawing a correctly labeled graph of the money market.
- One point is earned for showing a leftward shift in the money demand curve, resulting in a lower nominal interest rate.

(b) 2 points:

- One point is earned for stating that the price of previously issued bonds will increase.
- One point is earned for stating that both the price level and real income will increase and for explaining that the lower interest rate will increase consumption, investment, and/or net exports (interest-sensitive spending), which increases aggregate demand.

(c) 1 point:

- One point is earned for stating that the velocity of money will increase.

(d) 1 point:

- One point is earned for stating that the central bank would sell bonds.

MACROECONOMICS

Section II

Planning Time—10 minutes

Writing Time—50 minutes

Directions: You have 50 minutes to answer all three of the following questions. It is suggested that you spend approximately half your time on the first question and divide the remaining time equally between the next two questions. In answering the questions, you should emphasize the line of reasoning that generated your results; it is not enough to list the results of your analysis. Include correctly labeled diagrams, if useful or required, in explaining your answers. A correctly labeled diagram must have all axes and curves clearly labeled and must show directional changes. Use a pen with black or dark blue ink.

1. Assume that declining stock market prices in the United States cause many United States financial investors to sell their stocks and increase their money holdings.

   (a) Draw a correctly labeled graph of the money market and show the impact of the financial investors' actions on each of the following.

      (i) Demand for money

      (ii) Nominal interest rate

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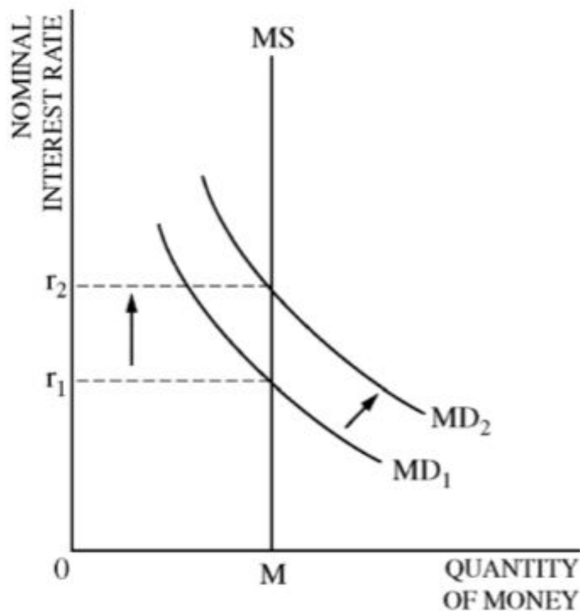
2007 SCORING GUIDELINES

Question 1

12 Points (3 + 3 + 2 + 3 +1)



(a) 3 points:

- One point is earned for a correctly labeled graph of the money market.
- One point is earned for showing a rightward shift of the money demand curve.
- One point is earned for the conclusion that the interest rate rises .

Unit 4:
Money, Banking, and Monetary Policy

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ENGAGEMENT

MONETARY POLICY

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MONETARY POLICY

How does a change in the money supply affect the economy?

Three Related Graphs:

- **Money Market**
- **Investment Demand**
- **AD/AS**

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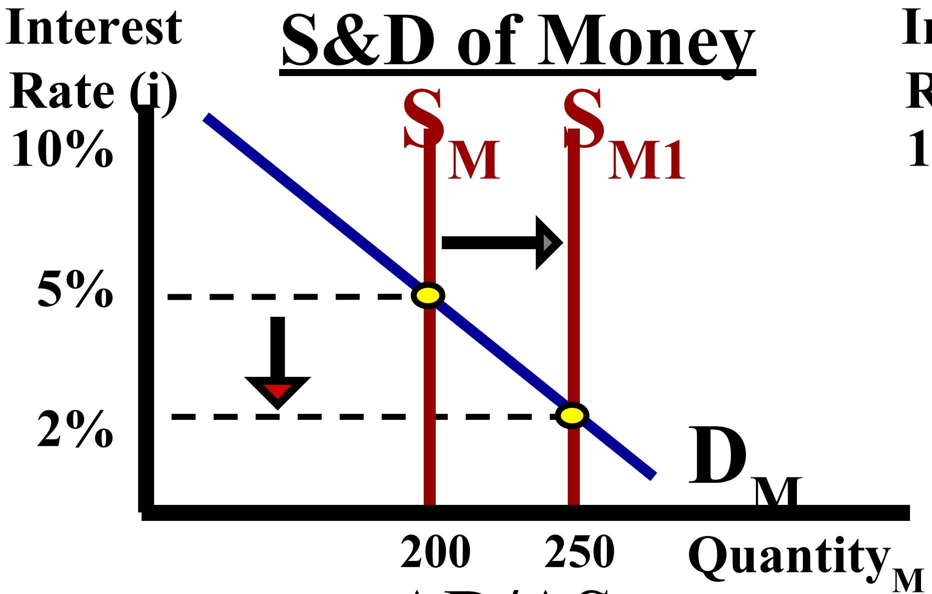

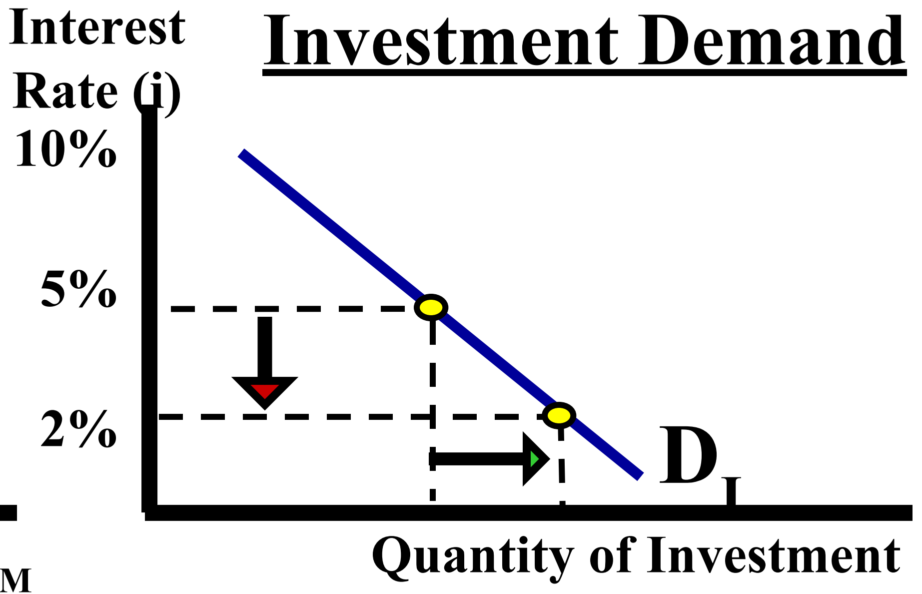

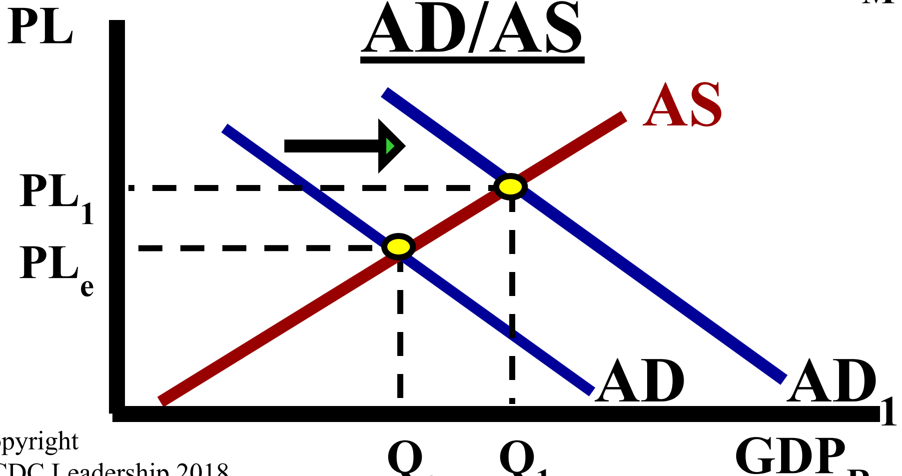

The Fed increases the money supply to stimulate the economy…

1. Interest Rates Decreases
2. Investment Increases
3. AD, GDP and PL Increases

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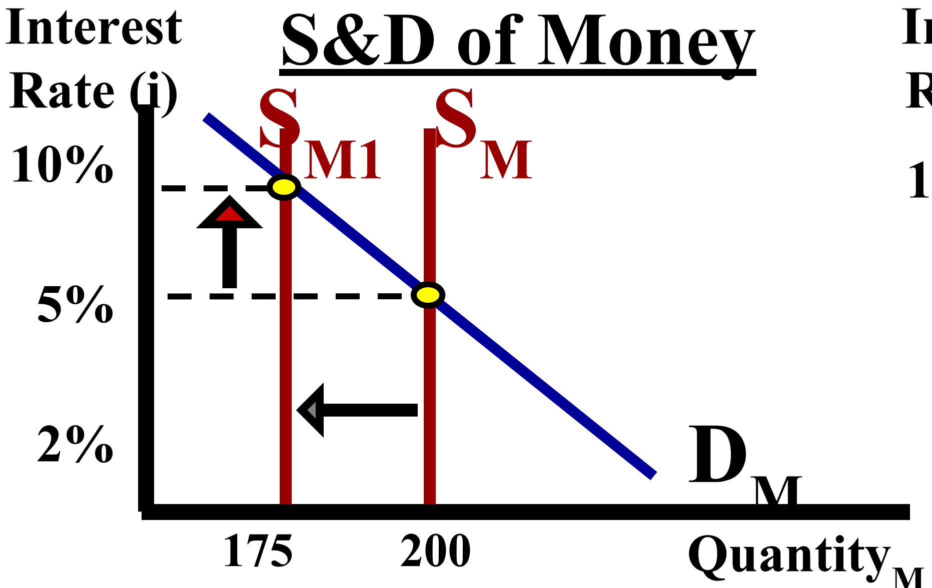

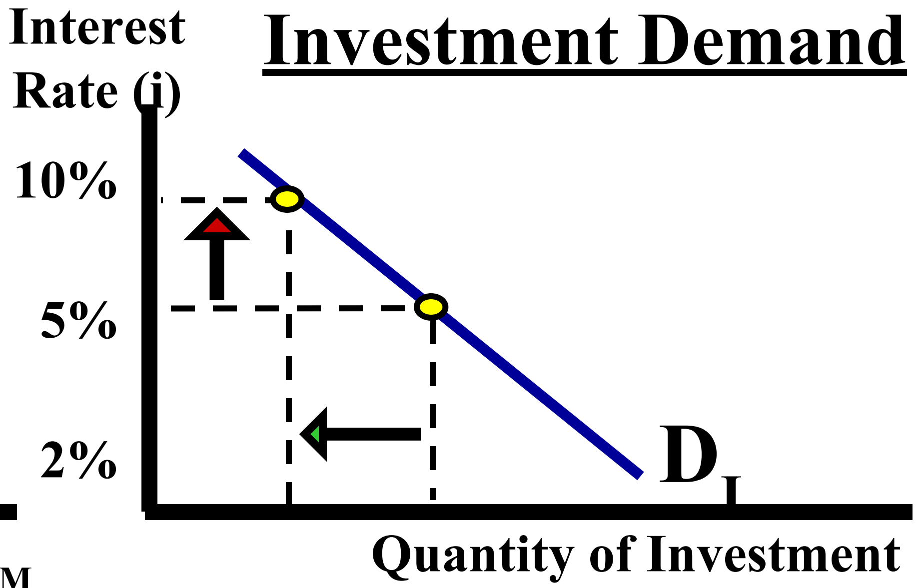

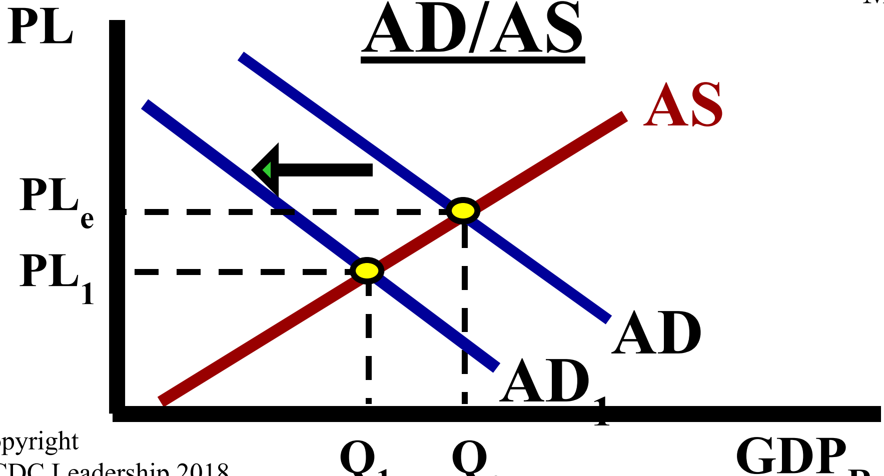

The Fed decreases the money supply to slow down the economy…

1. Interest Rates increase
2. Investment decreases
3. AD, GDP and PL decrease

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Wait, why would the Fed ever want to slow down the economy?

To fight inflation!

The role of the Fed is to "take away the punch bowl just as the party gets going".

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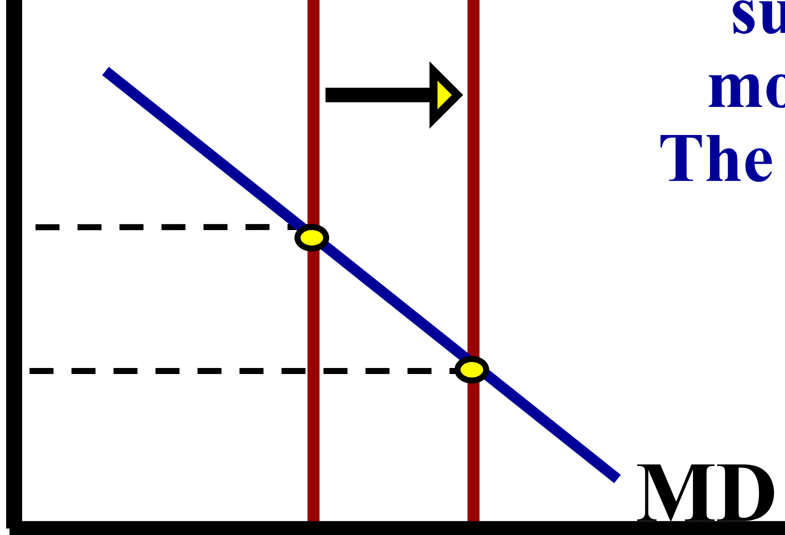
Increasing the Money Supply

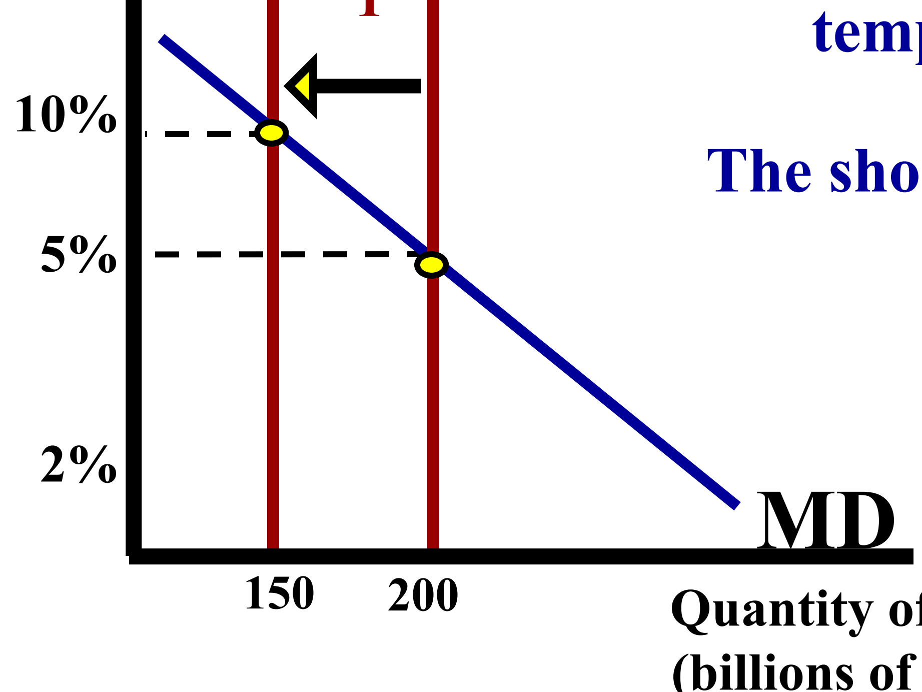


If the Fed increases the money supply, a temporary surplus of money will occur at 5% interest. The surplus will cause the interest rate to fall to 2%.

How does this affect AD?

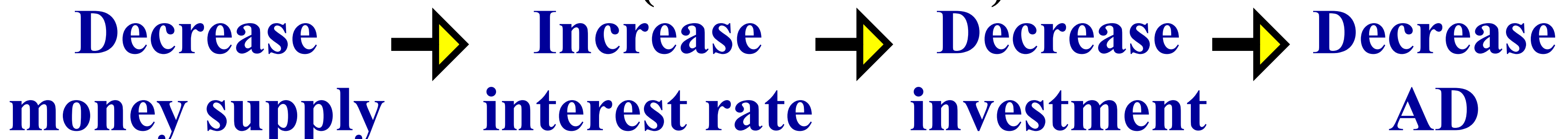
Increase money supply → Decreases interest rate → Increases investment → Increases AD

Decreasing the Money Supply



If the Fed decreases the money supply, a temporary shortage of money will occur at 5% interest.
The shortage will cause the interest rate to rise to 10%.

How does this affect AD?



Practice packet . . .

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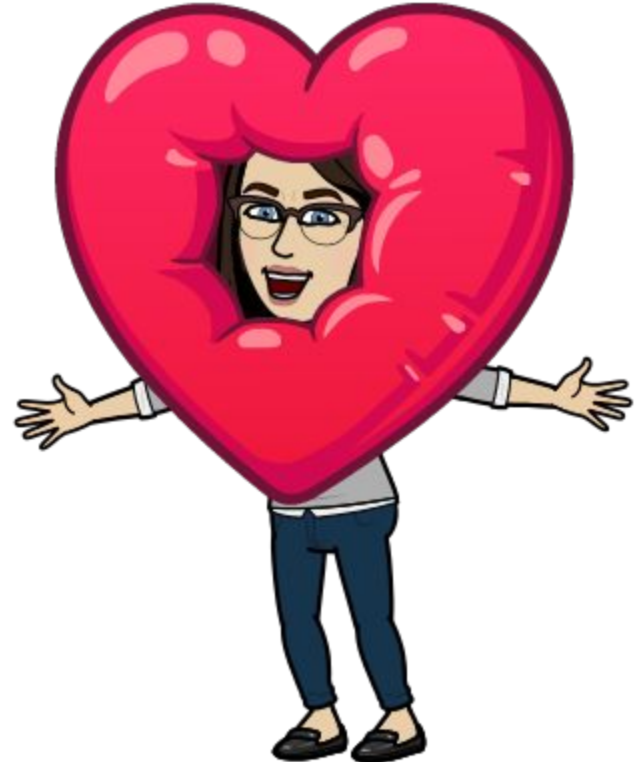
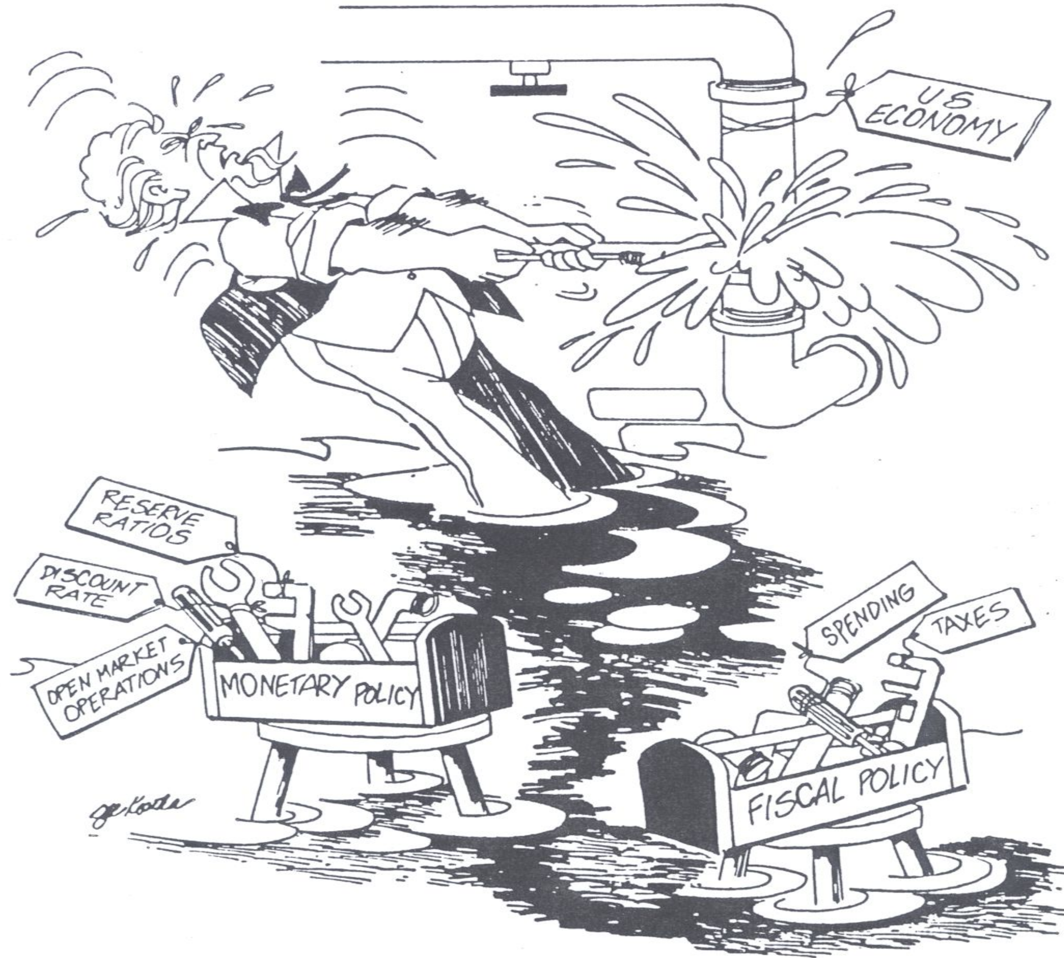
I Wuv Woo Thursday, Feb. 14
I Wuv Woo Too Tuesday, Feb. 19

- *Learning target: I can explain monetary policy and the tools of the Federal Reserve.*
- **HW 4-3 due now**
- Warm up: What do you wuv about economics? Where do you see economics in your life every day?



How the Government Stabilizes the Economy



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How the Fed Stabilizes the Economy

These are the three Shifters of Money Supply

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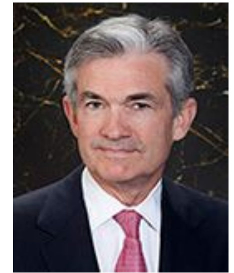
3 Shifters of Money Supply

The Fed adjusts the money supply by changing any one of the following:

1. **Setting Reserve Requirements (Ratios)**
2. **Lending Money to Banks & Thrifts**
   - **Discount Rate**
3. **Open Market Operations**
   - **Buying and selling Bonds**



The Fed is now chaired by Jerome H. Powell

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DR. RROMO

Remember DR. RROMO!!

Fractional Reserve Banking

When banks hold only a small portion of deposits to cover potential withdrawals and then loan the rest of the money out.

If we all went to the bank to withdraw money at the same time what would happen?

BANK RUN!

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#1. The Reserve Requirement

If you have a bank account, where is your money?
Only a small percent of your money is held in reserve.
The rest of your money has been loaned out.
This is called “Fractional Reserve Banking”.
The Fed sets the amount that banks must hold.

#1. The Reserve Requirement

The Fed sets the amount that banks must hold.

The reserve requirement (reserve ratio) is the % of deposits that banks must hold in reserve (the % they can NOT loan out).

- **When the Fed increases the money supply, it increases the amount of money held in bank deposits.**
- **Banks keeps some of the money in reserve and loan out their excess reserves.**
- **These loans eventually become deposits for another bank that will loan out their excess reserves.**

The Money Multiplier

Example: Assume the reserve ratio in the US is 10%.

You deposit $1000 in the bank.

The bank must hold $100 (required reserves).

The bank lends $900 out to Bob (excess reserves).

Bob deposits the $900 in his bank.

Bob's bank must hold $90. It loans out $810 to Jill.

Jill deposits $810 in her bank.

SO FAR, the initial deposit of $1000 caused the CREATION of another $1710 (Bob's $900 + Jill's $810)

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The Money Multiplier

$$\text{Money Multiplier} = \frac{1}{\text{Reserve Requirement (ratio)}}$$

Example:

- **If the reserve ratio is .20 and the initial deposit is 4 million, what is the money supply increase?**

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Using The Reserve Requirement

1. If there is a recession, what should the Fed do to the reserve requirement? (Explain the steps.)

Decrease the Reserve Ratio

1. **Banks hold less money and have more excess reserves.**
2. **Banks create more money by loaning out excess.**
3. **Money supply increases, interest rates fall, AD up.**

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Using The Reserve Requirement

2. If there is inflation, what should the Fed do to the reserve requirement? (Explain the steps.)

Increase the Reserve Ratio

1. **Banks hold more money and have less excess reserves.**
2. **Banks create less money.**
3. **Money supply decreases, interest rates up, AD down.**

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#2. The Discount Rate

The <u>Discount Rate</u> is the interest rate that the Fed charges commercial banks.

Example:

- **If Bank of America needs $10 million, they borrow it from the U.S. Treasury (which the Fed controls) but they must pay it bank with 3% interest.**

To increase the Money supply, the Fed should <u>DECREASE</u> the Discount Rate (Easy Money Policy).

To decrease the Money supply, the Fed should <u>INCREASE</u> the Discount Rate (Tight Money Policy).

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#3. Open Market Operations

- **Open Market Operations is when the Fed buys or sells government bonds (securities).**
- **This is the most important and widely used monetary policy.**

To increase the Money supply, the Fed should ___BUY___ government securities.

To decrease the Money supply, the Fed should ___SELL___ government securities.

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#3. Open Market Operations

How are you going to remember?

Buy-BIG- Buying bonds increases money supply.

Sell-SMALL- Selling bonds decreases money supply.

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Problem set 4.3 . . .

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